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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,800	03/07/2001	Hiroto Yoshioka	55661(904)	9944

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EDWARDS & ANGELL, LLP
P.O. BOX 9169
BOSTON, MA 02209

EXAMINER

CHIN, RANDALL E

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 01/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/800,800

Applicant(s)

YOSHIOKA ET AL.

Examiner

Randall Chin

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on November 6, 2003 and December 4, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 13-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 37-52 is/are rejected.
- 7) ☒ Claim(s) 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 03 July 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:
Reference numeral **15** as shown in Fig. 7.

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 40-52 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The recitation in new claim 40, lines 12-13, reciting "the object to be cleaned is not immersed or submerged in a cleaning solution" is not originally supported in the

specification and therefore constitutes new matter. See **MPEP 2173.05(i)**. Accordingly, no art rejections have therefore been applied to claims 40-52.

4. Claim 39, line 3, "abject" should read —object—and also "it its" should be corrected.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 4, 6 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Japan 06-005577 (hereinafter the Japan reference).

The Japan reference teaches a scrubbing means 6 for scrubbing a first surface of an object to be cleaned and an ultrasonic wave projection means for supplying an aqueous cleaning agent against a second surface of the object to be cleaned and generating an ultrasonic wave defined by nozzle in the bottom of the tank 1 in conjunction with ultrasonic wave oscillator 7 shown in Fig.1. The first and second sides are disposed on opposing sides of the object to be cleaned so that the object to be cleaned is between the scrubbing means and the ultrasonic wave projection means. Additionally, the scrubbing means is deemed to be "in registration" with the first surface of the object to be cleaned and the ultrasonic wave projection means is deemed to be "in registration" with the second surface of the object to be cleaned. Clearly, substrate

12 is set between the scrubbing means 6 and the ultrasonic wave projection means. The fact that the Japan reference may teach a submerged substrate in a vessel does not overcome the present rejection. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The fact that the substrate may remain submerged in the aqueous cleaning agent while being scrubbed or that floating and/or suspended particles can be re-deposited on the submerged substrate as set forth by the Japan reference, claim 1 only requires that there be ultrasonic wave projection means for supplying an aqueous cleaning agent against the surface of the object to be cleaned and generating an ultrasonic wave. The Japan reference does this.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

=(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 06-005577.

As for claim 5, it is the Examiner's position that whether the cleaning brush is a disk brush or roll brush is an obvious design matter to one of ordinary skill in the art and may depend on desired cleaning characteristics of the substrate or for pure economical

reasons. For similar reasons, the use of transport rollers or belt conveyor as recited by claim 12 is another design choice which may depend on design characteristics or economic reasons. Whether the substrate is transported by rollers or belt conveyor is not deemed to define patentable subject matter.

9. (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 2, 4, 5, 7, 38 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Konishi '805.

Konishi '805 teaches with respect to claims 1 and 7, for example in Fig. 4, a scrubbing means 31 for scrubbing a first surface of an object W to be cleaned and an ultrasonic wave projection means 42 for supplying an aqueous cleaning agent against a second surface of the object to be cleaned and generating an ultrasonic wave defined by nozzle (col. 7, lines 44-65). The first and second sides are disposed on opposing sides of the object W to be cleaned so that the object to be cleaned is between the scrubbing means and the ultrasonic wave projection means. Additionally, the scrubbing means is deemed to be "in registration" with the first surface of the object to be cleaned and the ultrasonic wave projection means is deemed to be "in registration" with the second surface of the object to be cleaned. Clearly, substrate W is set between the scrubbing means 31 and the ultrasonic wave projection means 42 as shown in Fig. 4.

As for claim 2, nozzle 41 (Fig. 4), although it sprays ultrasonic cleaning agent, still supplies aqueous cleaning agent onto the first surface of the object W to be cleaned.

As for claims 4 and 5, scrubbing means 31 is a cleaning roll brush.

As for claim 38, a rotation mechanism 20a or 20c (Fig. 3) rotates the object W to be cleaned about a rotation axis vertical to the object W while supporting it in its peripheral portion.

11. Claims 8 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konishi '805 in view of Ishihara '972.

As for claim 8, it is the Examiner's position that spraying the cleaning agent in a radial fashion is within the level of ordinary skill since such an arrangement could also accomplish Konishi's goal of cleaning the entire surface area of the wafer W. Either spraying arrangement (i.e., radial or perpendicularly) is deemed old and well known.

Konishi teaches all of the recited subject matter with the exception of a reverse mechanism for turning over the object to be cleaned. The patent to Ishihara '972 discloses a reverse unit or mechanism 10 for flipping or turning over a substrate for complete cleaning (col. 4, lines 34-37). It would have been obvious to one of ordinary skill in the art to have provided Konishi's apparatus with a reverse mechanism for turning over the object to be cleaned as suggested by Ishihara '972 for total cleaning of the object to be cleaned.

Allowable Subject Matter

12. Claim 36 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Applicant's arguments filed November 6, 2003 have been fully considered but they are not persuasive.

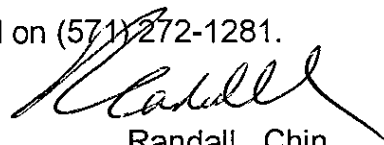
In response to Applicant's argument that the Japan reference fails to show certain features of Applicant's invention, it is noted that the features upon which applicant relies (i.e., providing an ultrasonic wave to the back side of the substrate that propagates through the substrate to clean the upper surface simultaneously) is not recited in rejected claim 1. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). With respect to the Japan reference teaching immersing the substrate in a cleaning fluid, such fact does not take away from that taught by the Japan reference in meeting the limitations of claim 1. New claim 40 contains new matter as recited above.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randall Chin whose telephone number (571) 272-1270. The examiner can normally be reached on Monday through Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on (571) 272-1281.



Randall Chin
Primary Examiner
Art Unit 1744



R. Chin
December 18, 2003